

WE CLAIM:

1. An ballistic panel for providing ballistic protection, the panel comprising a plurality of deformable pieces that are arranged side-by-side and detachably retained into the panel in a manner that a piece impinged by a projectile becomes attached to the projectile and removed from the panel, whereby the size and shape of the projectile is increased by the attachment of the piece in order to be more easily stopped by any further panel provided for stopping the projectile.

2. The panel of claim 1, wherein the pieces are arranged in at least one plane.

3. The panel of claim 1, wherein the plurality of pieces is a plurality of compact ballistic units that are arranged into a side-by-side pattern and compacted into a dense panel, wherein each ballistic unit comprises a plurality of fibers arranged into a bundle that is folded and entangled into a compact mass of fibers.

4. The panel of claim 3, wherein each compact ballistic unit comprises a bundle of fibers that is folded and entangled into a knot.

5. The panel of claim 1, wherein the pieces form part of at least one high-tensile strength fabric cut into said pieces.

6. The panel of claim 5, wherein the at least one high-tensile strength fabric comprises a plurality of fabric sheets arranged into a pattern in that the pieces of a fabric sheet are offset relative the pieces of any adjacent fabric sheet.

7. The panel of claim 5, wherein the high-tensile strength fabric is made of polymeric threads selected from the group comprising aramid threads, polyester threads, synthetic threads, aramid fibers, ultra high resistance polyethylene fibers, thread fibers, and mixtures thereof.

8. The panel of claim 1, wherein the plurality of pieces is a plurality of side-by-side arranged ring members, each ring member defining an inner diameter smaller than an outer maximum dimension of the projectile.

9. The panel of claim 8, wherein each ring member is selected from the group comprising lock washers, tooth washers, spring washers, rings, spring coil, sand clock-shaped spring and mixtures thereof.

10. The panel of claim 8, wherein the ring members are connected to each other and arranged into at least one plane.

11. The panel of claim 8, wherein the ring members are arranged side-by-side in more than one adjacent planes in a manner that the ring members of one plane are offset of the ring members of the adjacent plane.

12. The panel of claim 1, wherein the deformable pieces are arranged side-by-side into a material selected from the group comprising cardboard, rubber, polymers, plastics, EVA, composites.

13. The panel of claim 8, wherein the projectile is provided with a piercing tip having a minor dimension and the inner diameter of the ring member is larger than the minor dimension of the projectile member, for blocking the piercing tip.

14. The panel of claim 3, wherein the fibers of the ballistic units are made of polymeric threads selected from the group comprising aramid threads, polyester threads, synthetic threads, aramid fibers, ultra high resistance polyethylene fibers, thread fibers, and mixtures thereof.

15. A ballistic armored assembly for providing ballistic protection, the assembly comprising:

i. at least one ballistic panel comprising a plurality of side-by-side deformable pieces that are detachably retained into the panel in a manner that a piece impinged by a projectile is removed from the panel and attached to the projectile, whereby the size and shape of the projectile is increased by the attachment of the piece; and

ii. at least one projectile-stopping panel for stopping the projectile having said increased size and shape.

16. The assembly of claim 15, wherein the assembly has a front side and a rear side and the at least one ballistic panel is located at least at the front side for receiving the impinging projectile and the at least one projectile-stopping panel is located at least at the rear side for stopping the projectile having the increased size and shape after passing through the ballistic panel.

17. The assembly of claim 16, wherein the projectile-stopping panel is a projectile-trapping panel and the plurality of pieces is a plurality of compact ballistic units that are arranged into a side-by-side pattern and compacted into a dense panel, wherein each ballistic unit comprises a plurality of fibers arranged into a bundle that is folded and entangled into a compact mass of fibers.

18. The assembly of claim 17, wherein the fibers of the ballistic units are made of polymeric threads selected from the group comprising aramid threads, polyester threads, synthetic threads, aramid fibers, ultra high resistance polyethylene fibers, thread fibers) and mixtures thereof.

19. The assembly of claim 16, wherein the projectile-stopping panel is a projectile-trapping panel and the pieces form part of at least one high-tensile strength fabric cut into said pieces, the fabric being made of polymeric threads selected from the group comprising aramid threads, polyester threads, synthetic threads, aramid fibers, ultra high resistance polyethylene fibers, thread fibers and mixtures thereof.

20. The assembly of claim 19, wherein the at least one high-tensile strength fabric comprises a plurality of fabric sheets arranged into a pattern that the pieces of a fabric sheet are offset relative the pieces of any adjacent fabric sheet.

21. The assembly of claim 16, wherein the projectile-stopping panel is a projectile-trapping panel and the plurality of pieces is a plurality of side-by-side arranged ring members, each ring member defining an inner diameter smaller than an outer maximum dimension of the projectile.

22. The assembly of claim 21, wherein each ring member is selected from the group comprising lock washers, tooth washers, spring washers, rings, spring coil, sand clock-shaped spring and mixtures thereof.

23. The assembly of claim 22, wherein the ring members are connected to each other and arranged into at least one plane.

24. The assembly of claim 21, wherein the ring members are arranged side-by-side in more than one adjacent planes in a manner that the ring members of one plane are offset of the ring members of the adjacent plane.

25. The assembly of claim 15, wherein the deformable pieces are arranged side-by-side into a material selected from the group comprising cardboard, rubber, polymers, plastics, EVA, composites.

26. The assembly of claim 21, wherein the projectile is provided with a piercing tip having a minor dimension and the inner diameter of the ring member is larger than the minor dimension of the projectile member, for blocking the piercing tip.

27. The assembly of claim 16, wherein the panels form a pack with the panels attached to each other.

28. The assembly of claim 27, wherein at least one impact cushioning panel is provided at the rear side.

29. The assembly of claim 16, wherein the projectile-stopping panel is a projectile-trapping panel comprised of a compacted mass of loosely-entangled fibers, whereby the projectile having said increased size and shape is more easily stopped by the projectile-trapping panel.

30. The assembly of claim 29, wherein the fibers of the at least one projectile-trapping panel are formed from

polymeric threads selected from the group comprising aramid threads, polyester threads, synthetic threads, aramid fibers, ultra high resistance polyethylene fibers, thread fibers and mixtures thereof.

31. The assembly of claim 29, wherein the fibers of the projectile-trapping panel are wrapped around a core support to form said at least one projectile-trapping panel.

32. The assembly of claim 29, wherein the fibers of the projectile-trapping panel are confined into an outer cover.

33. The assembly of claim 29, wherein the at least one projectile-trapping panel is a panel compacted into a press.

34. The assembly of claim 29, wherein the at least one projectile-trapping panel is a panel compacted by extracting any air in the mass of entangled fibers by means of a vacuum chamber.